REMARKS

DISCUSSION OF SPECIFICATION

The specification has been amended to correct typographical informalities. Applicant respectfully requests acceptance of the amended specification because no substantive new matter has been added.

DISCUSSION OF CLAIMS

In the Office Action, claims 1-3, 5-6, 8-12, 14-16, 23-24, and 26-29 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Number 5,674,250 to de Coriolis et al.

In the Office Action, claims 1, 4, and 17-22 are rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Caussey, III (alone or in view of de Coriolis et al.).

In the Office Action, claims 7, 13, 25, and 30 are rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over de Coriolis et al. (alone or further in view of Causey, III).

In response thereto, claims 1, 11, 17, 23, and 28 have been cancelled, claims 2-10, 12-16, 18-22, 24-27, 29, and 30 have been amended, and new claims 31-45 have been added. Accordingly, claims 2-10, 12-16, 18-22, 24-27, and 29-45 are now pending. Following is a discussion of the patentability of each of the pending claims.

Independent Claim 7

Claim 7 recites a method for determining an improved defibrillation shock energy (DFSE) for a patient. The method comprises automatically adjusting the DFSE to a level based on cardiac data so that an implantable cardiac therapy device may deliver a therapeutic shock at an energy level approximating an improved DFSE for the patient. The cardiac data comprises data selected from a group consisting of cardiac rate, cardiac fibrillation rate, and time since last therapeutic shock.

The de Coriolis et al. reference discloses an implantable atrial defibrillator that provides adaptive output voltage control. A memory stores data associated with each voltage application, and a computation stage computes from the stored data a percentage of success which is compared to lower and upper limits. The output voltage is incremented or decremented based upon the comparison.

The de Coriolis et al. reference does not disclose or suggest automatically adjusting the DFSE to a level based on cardiac data comprising data selected from a group consisting of cardiac rate, cardiac fibrillation rate, and time since last therapeutic shock. The de Coriolis et al. reference provides adaptive control of defibrillator output voltage based upon storing data in memory following each cardioversion attempt and obtaining a relationship between percentage of success versus applied voltage. As such, the proper defibrillator output voltage is a function of percentage of success versus applied voltage. Nowhere does the de Coriolis et al. reference determine the proper defibrillator output voltage based upon cardiac rate, cardiac fibrillation rate, and time since last therapeutic shock.

The Causey, III reference discloses an implantable cardiac device that increases the energy content of a cardioversion or defibrillation shock as a function of time delay from an initial onset of an arrhythmia to the time treatment will be administered. The device monitors actual battery performance and uses that data to compute a forecasted time-to-therapy based upon the time it will take to charge a pair of capacitors to a target potential. The device also determines the total elapsed time from the onset of a tachyarrhythmia to just prior the delivery of a therapeutic shock. The forecasted time-to-therapy and the elapsed time-to-therapy are compared to a critical time. If the elapsed time-to-therapy is less than the critical time, the microprocessor and logic control circuit instructs the defibrillation shock delivery control circuit to administer the nominal shock energy value. However, if the elapsed time-to-therapy is equal to or greater than the critical time, the microprocessor and logic control circuit instructs the defibrillation shock delivery control circuit to set the shock energy level to the enhanced shock energy level and the capacitors are further charged to a corresponding voltage level. Thus, the initial energy level of the therapeutic shock may be overridden by the elapsed time-to-therapy determination.

The Causey, III reference does not disclose or suggest automatically adjusting the DFSE to a level based on cardiac data comprising data selected from a group consisting of cardiac rate, cardiac fibrillation rate, and time since last therapeutic shock. The Causey, III reference is directed to providing an enhanced shock energy level if the elapsed time-to-therapy is equal to or greater than a critical time. Thus, the shock energy level is a function of time since arrhythmia onset and is not a function of cardiac rate, cardiac fibrillation rate, and time since last therapeutic shock.

Furthermore, the Examiner states that since the de Coriolis et al. reference bases the determination of shock energy delivery on the success of previous shock data successfulness, the cardiac data is based upon the cardiac rate. It is respectfully submitted that the de Coriolis et al. reference does not monitor and track the cardiac rate, analyze the cardiac rate, and automatically adjust the DFSE to a level based on the cardiac rate. As stated previously, the de Coriolis et al. reference is directed to determining a proper applied voltage by analyzing the relationship between percentage of success versus applied voltage.

Accordingly, it is respectfully submitted that claim 7 is in condition for allowance.

Dependent Claims 2-6, 8-10, and 31-33

Claims 2-6, 8-10, and 31-33 depend from claim 7 and are similarly patentable. Accordingly, it is respectfully submitted that these claims are in condition for allowance.

Independent Claim 13

For at least the same reasons discussed above with regards to claim 7, it is respectfully submitted that claim 13 is in condition for allowance.

Dependent Claims 12, 14-16, and 34-36

Claims 12, 14-16, and 34-36 depend from claim 13 and are similarly patentable. Accordingly, it is respectfully submitted that these claims are in condition for allowance.

Independent Claim 19

For at least the same reasons discussed above with regards to claim 7, it is respectfully submitted that claim 19 is in condition for allowance.

Dependent Claims 18, 20-22, and 37-39

Claims 18, 20-22, and 37-39 depend from claim 19 and are similarly patentable. Accordingly, it is respectfully submitted that these claims are in condition for allowance.

Independent Claim 25

For at least the same reasons discussed above with regards to claim 7, it is respectfully submitted that claim 25 is in condition for allowance.

Dependent Claims 24, 26, 27, and 40-42

Claims 24, 26, 27, and 40-42 depend from claim 25 and are similarly patentable. Accordingly, it is respectfully submitted that these claims are in condition for allowance.

Independent Claim 30

For at least the same reasons discussed above with regards to claim 7, it is respectfully submitted that claim 30 is in condition for allowance.

Dependent Claims 29 and 43-45

Claims 29 and 43-45 depend from claim 30 and are similarly patentable. Accordingly, it is respectfully submitted that these claims are in condition for allowance.

CONCLUSION

In light of the above claim amendments and remarks, it is respectfully submitted that the application is in condition for allowance, and an early notice of allowance is requested.

Respectfully submitted,

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Ronald S. Tamura, Reg. No. 43,179
Patent Attorney for Applicant

Pacesetter, Inc.
15900 Valley View Court
Sylmar, CA 91392-9221
818/493-3157
818/362-4795 (fax)